

Assignment on Ethers

1. Give the IUPAC names of the following organic compounds

i) CH_3OCH_3 : Methoxymethane

ii) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$: Ethoxyethane

iii) $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$: Butoxymethane

iv) $\text{CH}_3\text{CH}_2\text{OCH}_3$: Methoxyethane.

v) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$: Ethoxypropane

2. Discuss the properties of Ethers.

i) physical states: At room temperature, ethers are colourless, neutral liquids with pleasant ~~odour~~ odours.

ii) Solubility: Ethers are less soluble in water than the corresponding alcohols.

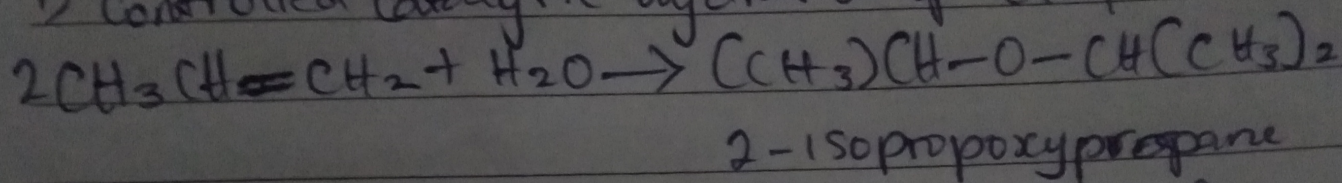
iii) Density: Most of the simple ethers are less denser than water.

iv) Boiling point: Low molecular ethers have a lower boiling point than the corresponding alcohols but ~~contains~~ contains alkyl radicals larger than four carbon atoms.

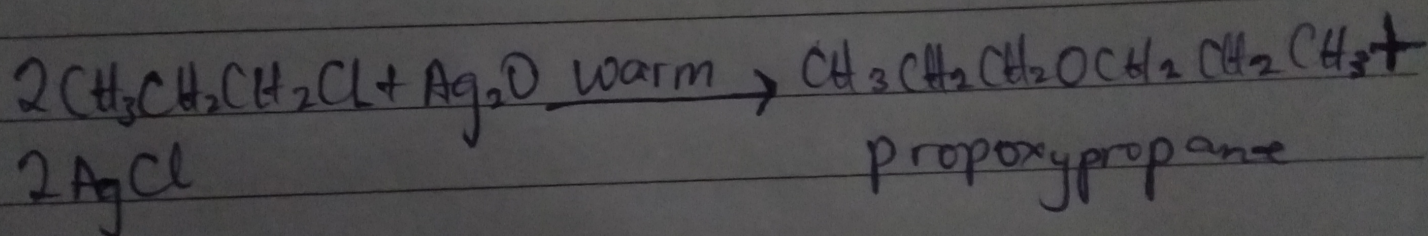
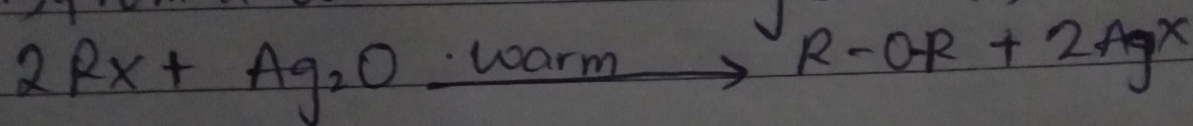
2) Reactivity: ethers are ~~not~~ inert at moderate temperature.

3. Discuss explicitly two methods of preparing ethers and show equations of reactions.

i) Controlled catalytic hydration of olefins.



ii) From haloalkanes and dry silver (I) oxide.



4. State three uses of ethylene oxide.

i) Ethylene oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.

ii) Ethylene oxide is used in the preparation of nonionic emulsifying agents, plastics, plasticizers and several synthetic textiles.

iii) Ethylene oxide is used as a gaseous sterilizing agent.